



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/722,495

11/28/2003

Yu-Kai Lin

BHT-3167-169

7679

7590  
BRUCE H. TROXELL  
SUITE 1404  
5205 LEESBURG PIKE  
FALLS CHURCH, VA 22041

03/29/2007

EXAMINER

WALFORD, NATALIE K

ART UNIT

PAPER NUMBER

2879

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

03/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/722,495

Applicant(s)

LIN, YU-KAI

Examiner

Natalie K. Walford

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6, 10 and 12-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10 and 12-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

The Amendment, filed on January 16, 2007, has been entered and acknowledged by the Examiner. Claims 1-6, 10, and 12-14 are pending in the instant application.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-6, 10, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isohata et al. (US 6,288,489) in view of Kim et al. (US PUB 2003/0025428).

Regarding claim 1, Ishohata discloses a plasma display device in figures 4 and 5, comprising: a plasma display panel (item 10); and a heat-dissipating plate (item 18), mounted on the plasma display panel and thermally connected to the plasma display panel through a laminar attachment structure (items 1a, 1b, 1c); wherein the laminar attachment structure comprises an annular channel (item 3) which divides the laminar attachment structure into an outer closed portion (area outside of item 3) and an inner portion (inside of item 3) (see FIG. 5C specifically), but does not expressly disclose that at least one vacuum-pumping aperture is formed at the heat-dissipating plate, as claimed by Applicant. Kim is cited to show a plasma display device in figure 1 with a plasma display panel (item 10) and a heat-dissipating plate (item 24) with apertures (item 54d) formed. Kim teaches that with the presence of holes in the plate, that the

Art Unit: 2879

overall area of the plate becomes reduced so that it suffers relatively small pressurizing power (paragraph 55).

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Isohata's invention to include at least one vacuum-pumping aperture is formed at the heat-dissipating plate as suggested by Kim for reducing the overall area of the plate.

Regarding claim 3, the combined reference of Isohata and Kim disclose the plasma display device of claim 1, wherein the laminar attachment structure is an adhesive double tape (Isohata; column 7, lines 49-52).

Regarding claim 4, the combined reference of Isohata and Kim disclose the plasma display device of claim 1, wherein the inner portion of the laminar attachment structure comprises at least one trench which divides the inner portion into at least two separated regions (Isohata; see FIG. 4, area on item 18).

Regarding claim 5, the combined reference of Isohata and Kim disclose the plasma display device of claim 1, wherein the at least one vacuum-pumping aperture is disposed above the annular channel (Kim; see FIG. 8).

Regarding claim 6, the combined reference of Isohata and Kim disclose the plasma display device of claim 4, wherein the at least one trench of the inner portion of the laminar attachment structure (Isohata; see FIG. 4, area on item 18) communicates with the external environment through at least one vacuum-pumping aperture formed at the heat-dissipating plate (Kim; see FIG. 8).

Regarding claim 10, Isohata discloses a plasma display device in figures 4 and 5, comprising: a plasma display panel (item 10); and a heat-dissipating plate (item 18), mounted on the plasma display panel and thermally connected to the plasma display panel through a laminar attachment structure (items 1a, 1b, 1c) having a plurality of strips spaced apart from each other (see FIG. 5C); wherein a respective guide trench (item 3) is disposed between each pair of the neighboring strips to guide out the air within the spaces of the plurality of strips, two ends of at least one guide trench are sealed to form a closed region (area outside of item 3), but does not expressly disclose that at least one vacuum-pumping aperture is formed at the heat-dissipating plate, as claimed by Applicant. Kim is cited to show a plasma display device in figure 1 with a plasma display panel (item 10) and a heat-dissipating plate (item 24) with apertures (item 54d) formed. Kim teaches that with the presence of holes in the plate, that the overall area of the plate becomes reduced so that it suffers relatively small pressurizing power (paragraph 55).

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Isohata's invention to include at least one vacuum-pumping aperture is formed at the heat-dissipating plate as suggested by Kim for reducing the overall area of the plate.

Regarding claim 12, the combined reference of Isohata and Kim disclose the plasma display device of claim 11, but do not expressly disclose that the space is 3 mm to 20 mm, as claimed by Applicant. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the space between the strips 3 mm to 20 mm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Regarding claim 14, the combined reference of Isohata and Kim disclose the plasma display device of claim 10, wherein the laminar attachment structure is an adhesive double tape (Isohata; column 7, lines 49-52).

Claims 2 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isohata et al. (US 6,288,489) in view of Kim et al. (US PUB 2003/0025428) in further view of Reisenauer et al. (US 6,161,910).

Regarding claim 2, the combined reference of Isohata and Kim disclose the plasma display device of claim 1, wherein the laminar attachment structure is a thermal pad, as claimed by Applicant. Isohata and Kim both disclose though that the attachment structure may be an adhesive double tape. Reisenauer is cited to show a heat sink (FIG. 4, item 28) that is connected to a display with a thermal pad (FIG. 4, item 84). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the laminar attachment structure be a thermal pad since it is known in the art that a thermal pad is another way of connecting a heating plate with a display as shown by Reisenauer.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to modify the combined reference of Isohata and Kim to include the laminar attachment structure as a thermal pad as suggested by Reisenauer for connecting the display panel and heat dissipating plate.

Regarding claim 13, the combined reference of Isohata and Kim disclose the plasma display device of claim 10, wherein the laminar attachment structure is a thermal pad, as claimed by Applicant. Isohata and Kim both disclose though that the attachment structure may be an

Art Unit: 2879

adhesive double tape. Reisenauer is cited to show a heat sink (FIG. 4, item 28) that is connected to a display with a thermal pad (FIG. 4, item 84). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the laminar attachment structure be a thermal pad since it is known in the art that a thermal pad is another way of connecting a heating plate with a display as shown by Reisenauer.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to modify the combined reference of Isohata and Kim to include the laminar attachment structure as a thermal pad as suggested by Reisenauer for connecting the display panel and heat dissipating plate.

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie K. Walford whose telephone number is (571)-272-6012. The examiner can normally be reached on Monday-Friday, 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Art Unit: 2879

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

nkW

Nataraj. W. S.  
3/20/07

Sikha Roy

SIKHA ROY  
PRIMARY PATENT EXAMINER